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To: J. W. McCASLIN

From: O. L. CORDES

Subject: TAN-SPERT Health Physics Progress Report for December, 1965: Cord-6-66A

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Monthly Health Physics activity/progress report: preperations for SNAPTRAN-II test, SPERT area activities, and Radiological Engineering support of PBF and LOFT. GCRE reactor pit survey for D&D.

6. Name and telephone number of person completing form:	7. Organization:	8. Date:
Burton R Baldwin (208) 525-0203	Lockheed Idaho Technologies Co.	March 15, 1995

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HUMAN RADIATION EXPERIMENTS

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REPOSITORY NAME	INEL
COLLECTION NAME	SYSTEM FOR NUCLEAR AUXILIARY POWER TRANSIENT (SNAPTRAN)
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PHILLIPS PETROLEUM COMPANY
Atomic Energy Division
Idaho Falls, Idaho

January 20, 1966

TAN-SPERT Health Physics Progress Report for December 1965
Cord-6-66A

Mr. J. W. McCaslin
O F F I C E

The monthly report of the TAN-SPERT Health Physics Section for December 1965 is as follows:

TSF

The major activities requiring HP coverage in the TSF area during December were:

1. PM-2A work in the Hot Shop
2. Routine coverage of HCA and RML
3. HP coverage in the pool area during transfer of radioactive material
4. Surveillance of the criticality facility which is being dismantled for General Electric
5. SNAPTRAN II grid work.

Working fields around the PM-2A reactor in the Hot Shop vary from 35 mr/hr to 25 r/hr. Remote work is not always possible; therefore, numerous AED-328 "Request for Approval of Unusual Radiation Exposure" forms have been completed. To date all exposures have been held below RPG levels.

DECONTAMINATION FACILITIES

The major items decontaminated, chemically cleaned, or sandblasted during December include:

1. 10 casks
2. 2 Dempster dumpsters
3. 800 ft stainless steel pipe
4. Numerous PM-2A equipment including hardness test machine, parts for hi-pressure test skid, 800 gallon tank, and numerous fixtures and tools
5. General Electric CE dolly
6. Hot Shop manipulator.

SPERT

Although SPERT I and II are essentially de-activated as reactor areas, frequent maintenance and other services require H.P. escorting to these facilities.

The SPERT III reactor is being readied for core loading for a static test series. Vessel hardware has been ground and fitted to operational tolerances, and the system was hydrostatically tested at 2000 psi, and the control system circuitry was checked during the month. Fitting of system and core components required

frequent entry by personnel into the vessel and associated removal, storage, and replacement of hardware components. HP surveillance during these activities was continuous.

A series of transients were run at the SPERT IV reactor during the month. Standard H.P. surveillance requiring building and area personnel evacuation before tests and upon re-entry after tests was maintained.

SNAPTRAN

Upon the request of STEP personnel a proposal was drafted spelling out the advantages and disadvantages of initiating the SNAPTRAN test in any one of several different wind directions, Cord-83-65A.

Shielding measurements with film badges and cadmium and paraffin covered gold foils were made in and around the EG&G camera dolly to obtain gamma and fast neutron exposures to the EG&G camera equipment. As a result of these measurements, a shield was added in front of the EG&G camera dolly to prevent the reflection of neutrons into the cameras from the concrete pad under the dolly.

Preparation of Health Physics monitoring equipment for the SNAPTRAN-2 Destructive Test continued on schedule. Additional monitoring equipment has been placed on grid sectors outside the 60° downwind arc in the event that the test should be conducted when the wind is blowing from a direction outside the proposed 60° arc.

RADIOLOGICAL ENGINEERING

During the past month efforts were continued to improve the calculation techniques used to analyze radiological hazards. These techniques were used upon several occasions to re-evaluate the hazards associated with the operations of SPERT IV, SNAPTRAN-2, PBF, and LOFT. Literature research was continued to refine the parameters and conversion factors used in the calculations. Of particular concern were the effective energy of the isotope in a decay chain, the biological half-life and the biological delay of various isotopes in reaching the critical organ, and the dose to the gastrointestinal tract from inhaled or ingested fission products. Progress in the latter categories was interupted by the preparations for the SNAPTRAN destructive test.

SPECIAL PROBLEMS

A contamination survey was made of the GCRE reactor pit and associated areas. An estimate of the decontamination costs was forwarded to STEP personnel.

SUMMARY OF ROUTINE WORK

Smears	1700
Direct reading dosimeters issued	35
Body fluid sampled	
Routine	111
Special	4
Liquid samples	
Waste water	2
Radioactive Shipments	
Off-site	17
On-site	59
Burial Ground	4
Laundry	6
Safe Work Permits	60
Beryllium analysis	1
Safety Meetings	1
Excess exposure request	10
Whole body analysis	11
Green Tags	183

MAN HOUR TABULATION

EXEMPT	NONEXEMPT	TOTAL		EXEMPT	NONEXEMPT	TOTAL
	Scheduled Hours				Actual Hours Worked	
1472	2144	3616		1266	1913	3179
	Overtime				Absences	
2	73	75	S -	0	8	8
			V -	80	104	184
			O -	0	0	0
			H -	128	192	320
			SF -	0	0	0
	TOTAL	3691			TOTAL	3691

OLCordes:dcm

O L Cordes

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